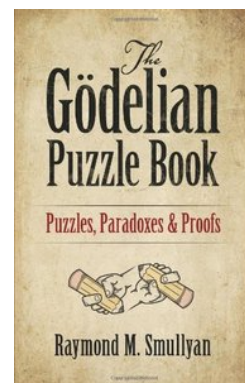
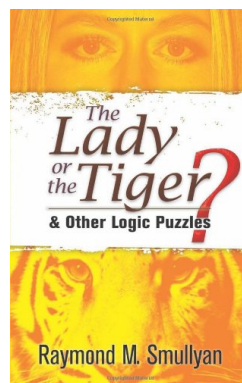
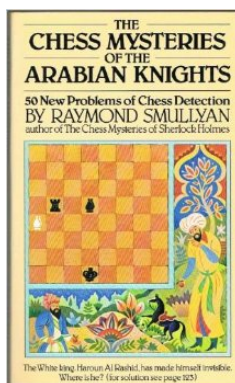
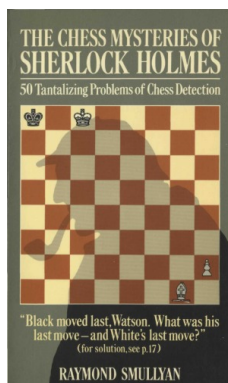
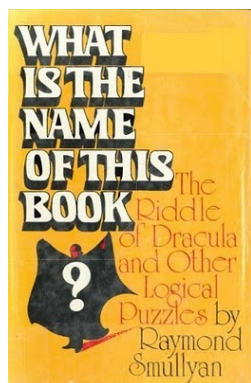


Raymond Merrill Smullyan

In the book reviews of this Newsletter it may have become clear that I am a great fan of Martin Gardner's writings on recreational mathematics¹. If you share this fascination, then you might as well be interested in the books by Raymond Smullyan (and you probably already know them). Gardner and Smullyan both became popular with their publications on recreational mathematics, magic, philosophy and religion. Yet there were differences. While Gardner never got an advanced degree in mathematics, Smullyan earned a PhD from Princeton under the supervision of Alonzo Church on formal systems and Gödel's incompleteness theorems. He had an academic career and he published several academic books on mathematics and logic. His studies were somewhat meandering along strange paths and suffered from several drop-outs. He has also a talent for music and is a skilled pianist. He recently passed away on 6 February 2017 at the age of 97. His final book: *A Beginner's Further Guide to Mathematical Logic* was just published in January.



His father was Russian but came at a young age to Belgium so that his native language was French. His mother was English, and since they moved to the US shortly after marriage, Raymond was born in the States as the youngest of three children. His mother soon recognized that his musical skills and the fact that he had perfect pitch. He won silver at a piano competition at the age of 12 and gold the next year.

His interest in logic came at an early age when one April 1, his brother said he would fool him like he never did before, but actually never did anything. Raymond stayed vigilant the whole day, but when at the end of the day nothing had happened, he was wondering whether he had been fooled or not.

During his school days he was interested in mathematics, but was not an role model, in fact he dropped out and studied Galois theory an invented Boolean algebra on his own. He entered and left several Colleges, not knowing whether to engage in music or in mathematics. He became interested in retrograde chess problems and be performed as a magician.

¹This Newsletter, issue 52, March 2005 and issue 99, September 2014.



Rudolf Carnap from the University of Chicago recommended him for a post in Dartmouth College. He was awarded a PhD at the age of 40 on the *Theory of Formal Systems* at Princeton, supervised by Alonzo Church. His retrograde chess problems, were accidentally discovered and with some delay got his books on this topics published *The Chess Mysteries of Sherlock Holmes* (1979) and *he Chess Mysteries of the Arabian Knights* (1981). As the titles suggest, he did not just posed the problems, but wrapped them up in some stories faithful to a Sherlock Holmes and Dr. Watson staging or queen Scheherazade.

When a former student of his was asked to write a puzzle book, he forwarded the invitation to Smullyan. He proposed his chess problems but they were not interested. So he wrote *What is the name of this book?* (1978) and when Martin Gardner wrote a very positive review, he was invited to write more like this, and all of a sudden his chess books became interesting too. He wrote some dozen puzzle books since which became very popular. Usually they are set in some sceneries that he uses repeatedly. For example there are the Knights (who always speak the truth) and the knaves (who always lie) and there are several other characters reappearing with characteristic properties. Like his chess problems, they are wrapped up so that they read as short stories, regularly spiced with a joke.

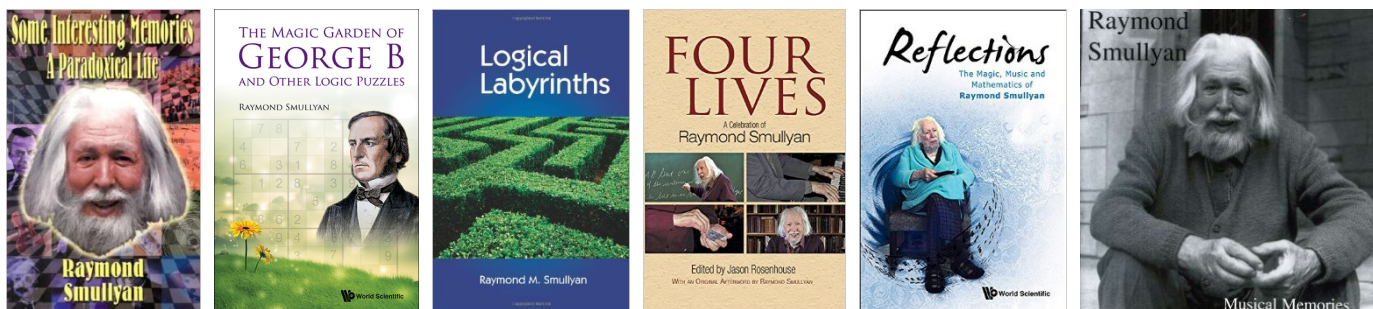
Besides these puzzles, Smullyan also wrote on philosophy, religion and Taoism. In fact *The Tao is silent* (1977) was his first non-mathematical book (I do not discuss his academic books in this review). The book is not an introduction to Taoism but it contains a set of Smullyan's reflections on Taoism, trying to understand the paradoxes that arise when organizing your life, following the Tao (i.e. 'path'), that is vague, formless, leisurely, and not imperative in any way. Several other books on philosophical and religious topics followed, but also here Smullyan is always witty and uses a lot of humor.

Tao Ruspoli made a film documentary about Smullyan's life in 2001 called *This Film Needs No Title*, winking to the essay collection *This Book Needs No Title* (1980), a sequel to his Toa book. This film may have triggered Smullyan to write his autobiography *Some Interesting Memories* (2002). He is then 83. It is a survey of his previous writings with some reflections, jokes, and anecdotes from his personal life.

In 2006, his Belgian wife Blanche, by 14 years his elder, passed away at the age of 100. She played the piano very well and had been a music teacher. She designed the house in which they retired, up in the Catskill Mountains, some 160 km North of New York. He conquered her love with a bet that he could kiss her without touching her. He lost.

Raymond continues publishing books and recording his music. In 2007 *The Magic Garden of George B. And Other Logic Puzzles* was made available by an Italian open access publisher *Polymetrica*. Since it does not exist anymore, World Scientific republishes it in 2015. It consists of the usual collection of puzzles, but in a second part, an introduction is given to propositional logic and Boolean algebra. It is a preparation for a more elaborated book *Logical Labyrinths* (2009) that

goes much further and includes an introduction to first order logic. Two more puzzle books appear *King Arthur in Search of his Dog* (2010) and *The Gödelian Puzzle Book* (2013).



For his 95th birthday, Jason Rosenhouse edited a book *Four Lives: A Celebration of Raymond Smullyan* (2014). It consists of salutations from his many friends, followed by some longer essays related to his work, and a large part is a ‘the-best-of’ selection from his puzzles, riddles, and paradoxes.

Reflections (2015) is another attempt to write an autobiography, but it is mainly a recycling of existing material with again many jokes, anecdotes and puzzles, smuggling in some serious stuff about undecidability, incompleteness, provability, and these Gödelian issues. It reads like the script for the performance of a stand-up comedian. Every event has some connection to an anecdote, which reminds him of a joke, that is like another story that happened to somebody else, which triggers more jokes,... You can imagine him, not standing up, but sitting in an easy chair with a growing company of listeners flocking around him, while he is entertaining them. This format cannot be maintained during 200 pages, so there is some variation. Sometimes there are short (fun) poems dedicated to some person. It also has letters and emails from him or addressed to him, some lists of riddles with pun answers (like ‘What philosopher couldn’t do things?’ Answer: ‘Immanuel Can’t’), etc.

A large chapter is devoted to the *Piano Society*². This society has a website where you can find biographies of composers and pianists. Many recordings from their members are made freely available. The website has also a discussion forum and since Smullyan posted there some fun definitions (style *Cellist*: One who greets one with “Cello”.) and puzzles. Other members (some are also mathematicians or are at least interested in the logic needed to solve them) got hooked and some lively discussions sometimes took place. There was some competition to be the first to solve them. So this chapter gives a list of all the joking definitions and some of the discussions related to his puzzles. At the website you can of course also listen to several of his recordings. An alternative is to buy his album *Musical Memories* (2004) that appeared shortly after his (first) autobiography. Smullyan admits gracefully that he is blatantly immodest, but he accepts it as being genetic and beyond his control. This might irritate some readers since it somewhat shows throughout the text. Another of his vices is that he is an incorrigible flirt and lover of women. He urges to add that it is always a complimentary flirtation, and he never has the intention to seduce. The last chapter of his *Reflections* is devoted to happy memories for several women he has known.



Raymond Smullyan 1968
Picture by Paul Halmos

A. Bultheel

²pianosociety.com